Abstract

This invention concerns the use of cyclopamine in vivo on basal cell carcinomas (BCC's) to achieve therapeutic effect by causing differentiation of the tumor cells and, at the same time, apoptotic death and removal of these tumor cells while preserving the normal tissue cells, including the undifferentiated cells of the normal epidermal basal layer and hair follicles. Causation of apoptosis by cyclopamine is by a non-genotoxic mechanism and thus unlike the radiation therapy and most of the currently used cancer chemotherapeutics which act by causing DNA-damage. These novel effects, previously unachieved by a cancer chemotherapeutic, make the use of cyclopamine highly desirable in cancer therapy, in the treatment of BCC's and other tumors that use the *hedgehog/smoothened* signal transduction pathway for proliferation and prevention of apoptosis.